

# 6CM7

## Medium-Mu Dual Triode

With Dissimilar Units

### 9-PIN MINIATURE TYPE

With Heater Having Controlled Warm-Up Time

#### GENERAL DATA

##### Electrical:

Heater, for Unipotential Cathodes:

Voltage (AC or DC) . . . . .	6.3	volts
Current . . . . .	0.6 ± 6%	amp ←
Warm-up time (Average) . . . . .	11	sec

Direct Interelectrode Capacitances (Approx.):<sup>a</sup>

	Unit No. 1	Unit No. 2	
Grid to plate . . . . .	3.8	3	μμf
Grid to cathode and heater. . .	2	3.5	μμf
Plate to cathode and heater . .	0.5	0.4	μμf

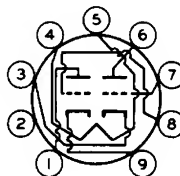
##### Characteristics, Class A<sub>1</sub> Amplifier:

	Unit No. 1	Unit No. 2	
Plate Voltage . . . . .	200	250	volts
Grid Voltage. . . . .	-7	-8	volts
Amplification Factor. . . . .	21	18	
Plate Resistance (Approx.) . . .	10500	4100	ohms
Transconductance. . . . .	2000	4400	μmhos
Plate Current . . . . .	5	20	ma
Plate Current for grid volts = -10.	-1	-	ma
Grid Voltage (Approx.) for plate μa = 10 . . . . .	-14	-	volts

##### Mechanical:

Operating Position. . . . .	Any
Maximum Overall Length. . . . .	2-5/8"
Maximum Seated Length. . . . .	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip) . .	2" ± 3/32"
Diameter. . . . .	0.750" to 0.875"
Dimensional Outline . . . . .	See General Section
Bulb. . . . .	T6-1/2
Base. . . . .	Small-Button Noval 9-Pin (JEDEC No. E9-1)
Basing Designation for BOTTOM VIEW. . . . .	9ES

- Pin 1 - Plate of Unit No. 2
- Pin 2 - No Connection
- Pin 3 - Cathode of Unit No. 1
- Pin 4 - Heater
- Pin 5 - Heater



- Pin 6 - Plate of Unit No. 1
- Pin 7 - Grid of Unit No. 1
- Pin 8 - Grid of Unit No. 2
- Pin 9 - Cathode of Unit No. 2

← Indicates a change.



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DATA 1  
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## VERTICAL-DEFLECTION OSCILLATOR

Values are for Unit No. 1

### → Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system<sup>b</sup>

DC PLATE VOLTAGE. . . . .	550 max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE. . . .	220 max.	volts
CATHODE CURRENT:		
Peak. . . . .	77 max.	ma
Average . . . . .	17 max.	ma
PLATE DISSIPATION . . . . .	1.45 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode. . . . .	200 max.	volts
Heater positive with respect to cathode. . . . .	200 <sup>c</sup> max.	volts

### Maximum Circuit Values:

Grid-Circuit Resistance:

For fixed-bias, grid-resistor-bias, or cathode-bias operation. . . . .	2.2 max.	megohms
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## VERTICAL-DEFLECTION AMPLIFIER

Values are for Unit No. 2

### → Maximum Ratings, Design-Maximum Values:

For operation in a 525-line, 30-frame system<sup>b</sup>

DC PLATE VOLTAGE. . . . .	550 max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE <sup>d</sup> . . .	2200 max.	volts
PEAK NEGATIVE-PULSE GRID VOLTAGE. . . .	220 max.	volts
CATHODE CURRENT:		
Peak. . . . .	77 max.	ma
Average . . . . .	22 max.	ma
PLATE DISSIPATION . . . . .	6 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode. . . . .	200 max.	volts
Heater positive with respect to cathode. . . . .	200 <sup>c</sup> max.	volts

### Maximum Circuit Values:

Grid-Circuit Resistance:

For fixed-bias operation. . . . .	1 max.	megohm
For cathode-bias operation. . . . .	2.5 max.	megohms

<sup>a</sup> Without external shield.

<sup>b</sup> As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

<sup>c</sup> The dc component must not exceed 100 volts.

<sup>d</sup> This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.

→ Indicates a change.

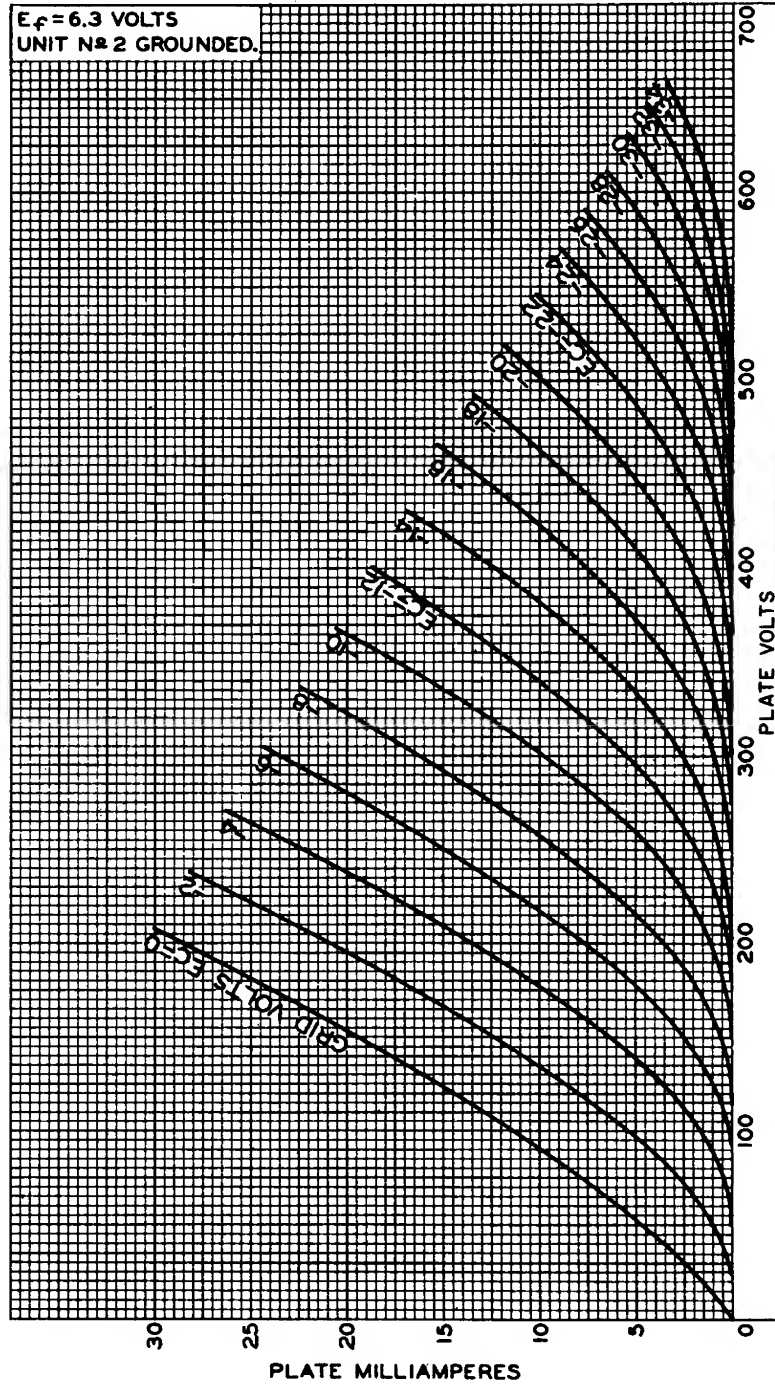
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## AVERAGE PLATE CHARACTERISTICS Unit No.1



92CM-8617

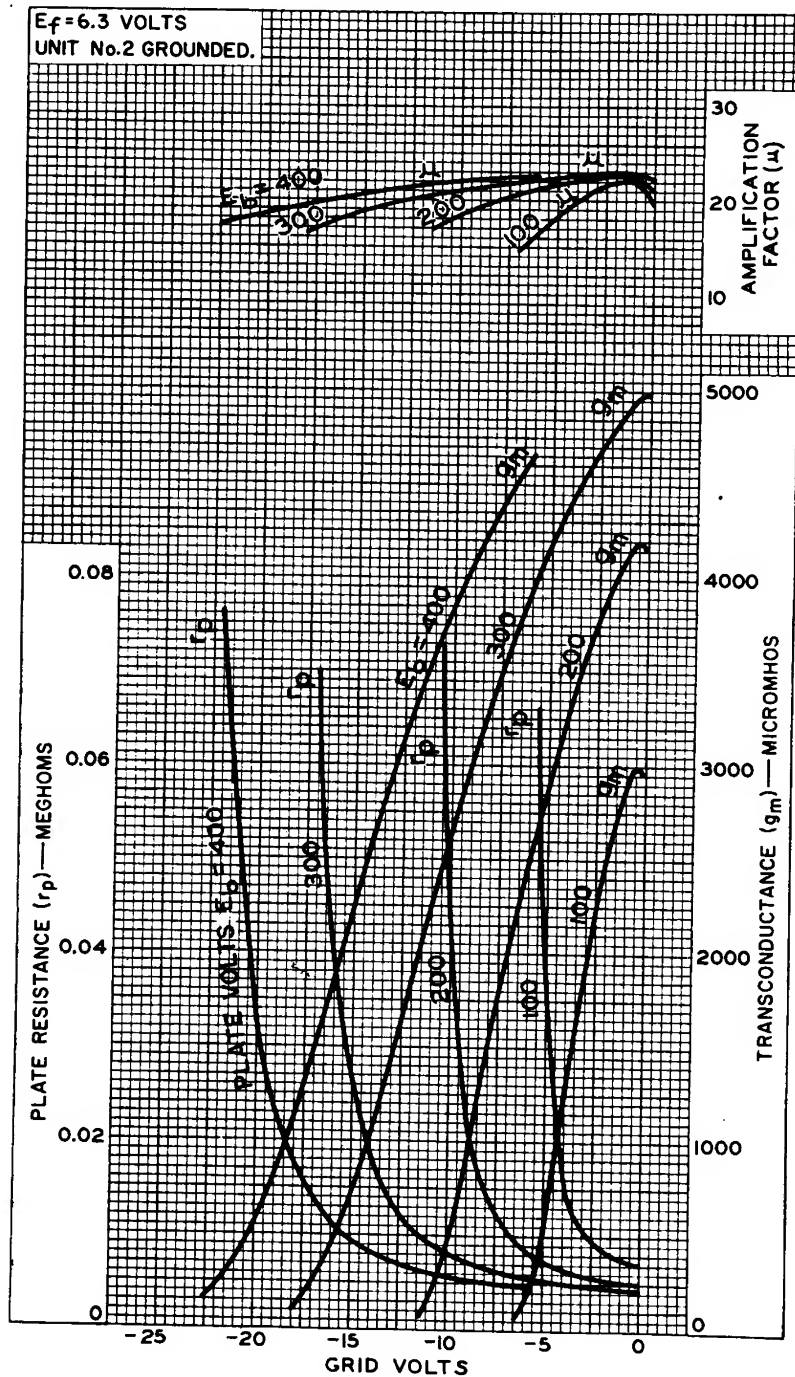


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DATA 2  
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## AVERAGE CHARACTERISTICS Unit No.1



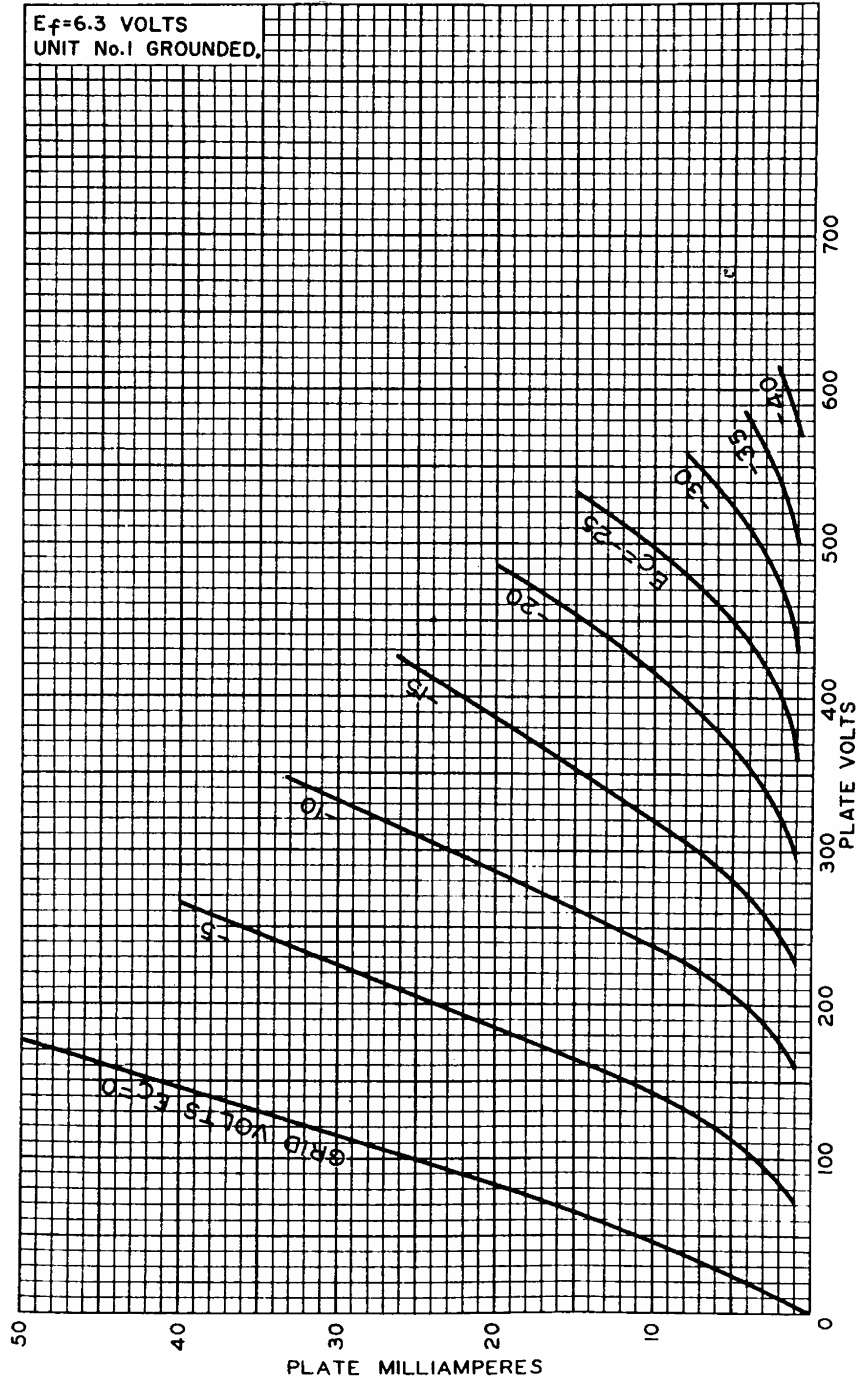
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# 6CM7

## AVERAGE PLATE CHARACTERISTICS Unit No.2



92CM-8615

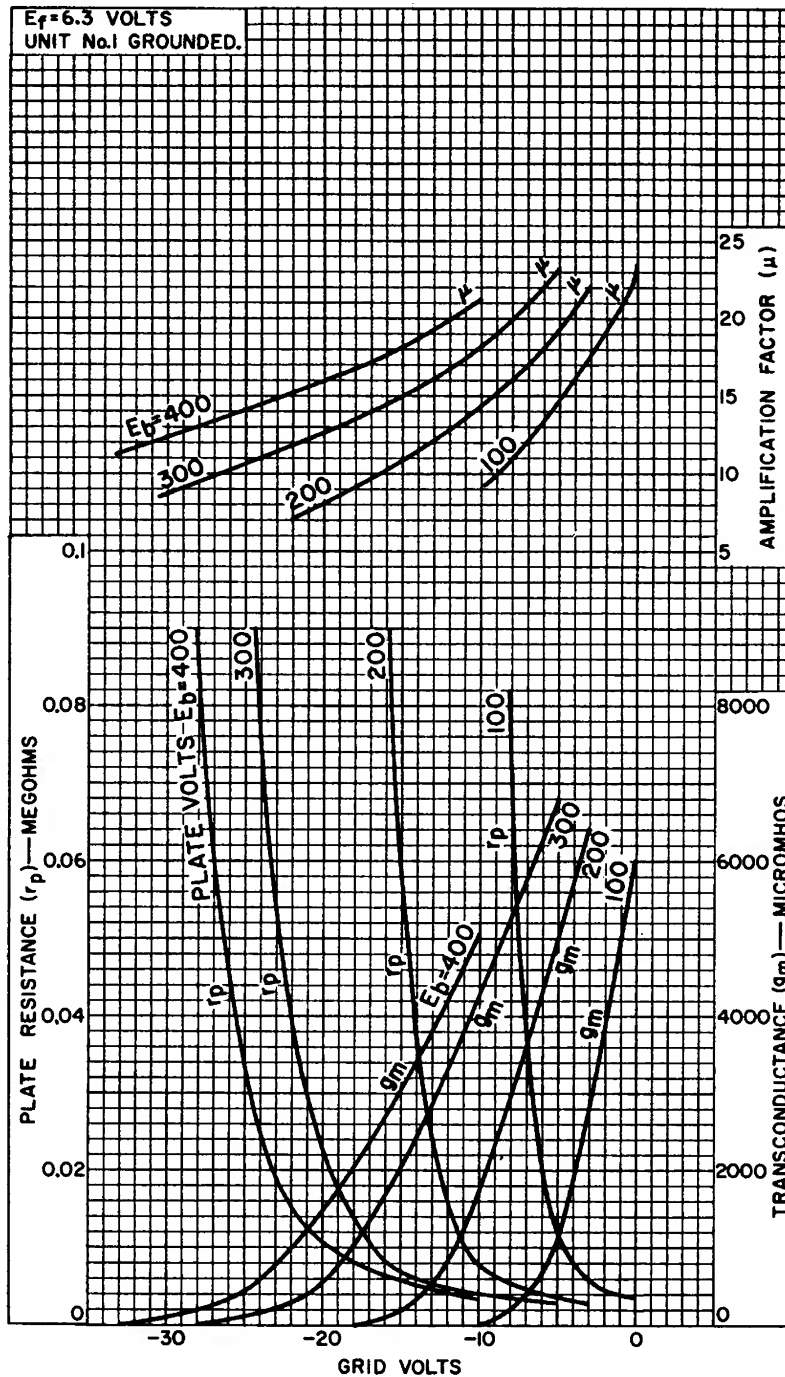


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DATA 3  
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## AVERAGE CHARACTERISTICS Unit No.2



92CM-8613R1

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